

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1 and 17 are currently being amended. Support for amendments can be found at least in the drawings. No new matter has been added.

This amendment changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-18 are now pending in this application.

Rejection under 35 U.S.C. § 103

Claims 1-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 1049234 A2 to Takeshi et al. (“Takeshi”) in view of U.S. Patent No. 5,732,769 to Staffa (“Staffa”) and U.S. Patent No. 4,576,555 to Ashenfelter (“Ashenfelter”). Applicants respectfully traverse this rejection for at least the following reasons.

Independent claim 1 as amended, recites:

A drive unit for an electric vehicle, comprising:

a motor;

an inverter supplying alternating current electric power to the motor;

a speed reducer reducing a revolution speed of a mechanical output of the motor, the speed reducer comprising a differential gear train distributing the mechanical output of the motor into left and right driving shafts;

a structural member integrally holding the motor, the inverter, and the differential gear train;

a first refrigerant receiving heat of at least one of the motor and the inverter and outputting the heat into the atmosphere;

a second refrigerant receiving heat of at least one of the motor and the speed reducer and outputting the heat to the first refrigerant, a cooling performance of the first refrigerant being higher than a cooling performance of the second refrigerant; and

a heat exchanger transferring the heat of the second refrigerant to the first refrigerant, the heat exchanger being integrally built in the structural member disposed at a bottom of the drive unit constituted by the motor, the inverter, and the differential gear train, and including a cooling passage through which the second refrigerant is passed and another cooling passage through which the first refrigerant is passed, the another cooling passage being disposed inside of the cooling passage through which the second refrigerant is passed.

Thus, in claim 1, (1) the heat exchanger is integrally built into the structural member, which integrally holds the motor, the inverter, and the differential gear train, i.e., the drive unit, and is disposed at the bottom of the drive unit, and (2) the heat exchanger includes a cooling passage through which the second refrigerant is passed and another cooling passage through which the first refrigerant is passed, where the another cooling passage is disposed inside of the cooling passage through which the second refrigerant is passed. The references applied in the rejection of the claims fail to disclose at least this combination of features.

Takeshi fails to disclose either feature (1) or feature (2) above. With respect to feature (1), Takeshi merely teaches that the drive apparatus is constituted by the motor. Takeshi does not suggest a drive unit comprising a motor, inverter, and differential gear train, where a heat exchanger is integrally built into a structural member, which integrally holds the drive unit. Neither Ashenfelter nor Staffa disclose this feature, and thus even if combined with Takeshi, the combination would not suggest all the features of claim 1. In particular, Ashenfelter discloses a drive unit 20 that comprise a motor, but not an inverter and differential gear train. While Staffa discloses a double pipe structure with one cooling medium passage within a cooling passage containing another cooling medium, nowhere does Staffa disclose or suggest that its double pipe structure be integrally built into a structural member as recited in claim 1, where the structural member integrally holds the motor, the inverter, and the differential gear train, or disposed at the bottom of a drive unit as that drive unit is described in claim 1 where the drive unit comprises the motor, the inverter, and the differential gear train. Thus, even if

Takeshi, Ashenfelter and Staffa were combined, the combination would not have all the features of claim 1.

Moreover, the rejection of claim 1 based on the combination of Takeshi, Ashenfelter and Staffa appears to be mere hindsight reconstruction of the claimed invention of claim 1 based on applicants' own disclosure, and as such is improper.

Independent claim 17, as amended, recites features similar to those discussed above with respect to claim 1, and thus claim 17 is patentable for reasons analogous to claim 1.

The dependent claims are patentable for at least the same reasons as their respective dependent claims, as well as for further patentable features recited therein.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date March 19, 2008

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